REMARKS

Entry of this response is proper under 37 CFR §1.116, since the only claim amendments address the claim wording considered by Applicants as more appropriate for the new statutory standard articulated in the recent *Bilski* holding, thereby reducing the issues for Appeal.

Claims 1-33 are all the claims presently pending in the application. Various claims are amended to provide more positive compliance with the recent holding in *Bilski*, as best understood at this time, although the original claim language arguably already provided sufficient nexus to a particular machine. Claim 14 is amended to remove the listing of applications, since this Examiner's latest rejection indicates that a new statutory subject matter test, not yet articulated has been developed by the USPTO, wherein everything under the sun created by man becomes an abstract idea, as long as at least one Examiner can make such a conclusory characterization.

It is noted that the claim amendments, if any, are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability except for a search for wording to address statutory subject matter. Further, Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-33 stand rejected under 35 U.S.C. § 101 as allegedly directed to non-statutory subject matter. Claims 1-9 and 12-33 stand rejected under 35 U.S.C. § 102(b) as anticipated by Chan, et al., "Distributed Data Mining in Credit Card Fraud Detection." Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chan, further in view of Stolfo, et al., "JAM: Java Agents for Meta-Learning over Distributed Databases."

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention, as exemplarily defined in independent claim 1, is directed to a method of processing an inductive learning model for a dataset of examples. The dataset is divided into a plurality of subsets of data. An estimated learning model for the dataset is then

developed by a processor on a computer, by developing a learning model for a first subset of the plurality of subsets.

Conventional methods, as described at line 21 of page 3 through line 6 of page 4, of learning model methods for a database require that the entire database be evaluated before the effects of hypothetical parameters for a test model are known. This process can take many hours (or days) and be costly, so that it can be prohibitive to spend so much effort in the development of an optimal model to perform the intended task.

In contrast, the present invention provides a method to develop an inductive learning model in much shorter time, including an estimate of the accuracy of the model as currently developed and an estimated cost to develop a complete model of the entire database.

II. THE 35 USC §101 REJECTIONS

Claims 1-33 stand rejected under 35 USC §101 as allegedly directed to non-statutory subject matter.

Applicants have amended the claims to be consistent with the latest statutory subject matter standard recently articulated by *Bilski*. And have clarified the supporting description in the specification for claims 14-19, commonly referred to as "Beauregard claims", after the holding of *In re Beauregard*, 53 F.3d 1583 (1995), wherein the USPTO conceded that diskettes having embedded therein a computer program are statutory subject matter. Therefore, Applicants believe that the claimed invention clearly satisfies the current statutory subject matter standard for a computerized process.

Unfortunately, this Examiner has decided to evaluate the claimed invention under a new, as-yet-unarticulated, statutory subject matter standard that, as best understood, alleges that a computerized process becomes an abstract idea if the Examiner can characterize that it can be used in more than one application.

In response, Applicants submit that the problem with this approach is that, as clearly demonstrated by the prosecution of the present application, it readily degrades into an arbitrary evaluation and unduly burdens innovation of applications in software. That is, there can be no reasonable doubt that that claimed invention is <u>not</u> being claimed as a mental exercise. Nor is there any reasonable doubt that the exemplary embodiment constitutes a complete application

program that can be used for increasing speed and efficiency and reducing the cost of evaluating contents of a database that contains trainable data, including the derivation of a model that would estimate, in a quantative manner and that is selectively terminable at any intermediate stage, a model of the entire database contents.

Rather, as best understood, the Examiner has arbitrarily decided that a process (e.g., a computer application program) that can be used in more than one scenario constitutes an abstract idea, because it would preempt all uses of the process.

Therefore, in response to the rejection currently of record for this new standard, as best understood at this point, Applicants submit that the claimed invention is not an abstract idea, for at least the following reasons:

1. If there is an "abstract idea" underlying the claimed invention, it might be articulated, for example, as the idea of developing an estimated learning model for an entire dataset. Along this line, it is noted that it is the present inventors who have recognized the advantage of this concept and have developed a precise and specific process to implement this idea (e.g., as described in at least the independent claims).

2. Therefore, in response to the Examiner's characterization and the rejection of record, Applicants first point out that the claimed invention is clearly not an idea in the abstract, since it is clearly executed on a machine as a precise method to implement the idea, and is, therefore, clearly not claimed as an idea in the abstract.

3. Second, the independent claims alone define a specific manner of executing this "abstract idea"; therefore, there is no preemption of the idea in the abstract. That is, to avoid possible infringement liability, one need merely demonstrate that at least one element of the independent claims is not executed in an accused process that likewise implements the idea of developing an estimated learning model for an entire dataset. For example, an estimated learning model for an entire dataset can be derived using one or more alternative processes, such as using another (already-developed) model derived from another (possibly related) dataset, or by deriving a model of aspects of specific elements of the data of the dataset and then combine or extrapolate these derived models into a larger model that is presumed to model the entire dataset.

4. Third, the approach of the present evaluation readily lends itself to abuse, since any process can be characterized in more general terms, ultimately resulting in a characterization that

can be declared as an "abstract idea." Similarly, any process that is clearly limited to a specific scenario, as the Examiner seems to insist upon, can arbitrarily be likewise declared to be an "abstract idea", simply because there is no legal definition for "abstract idea."

That is, in the present evaluation, if there is an abstract idea underlying the claimed invention, that abstract idea would have to be the idea of developing an estimated learning model for an entire dataset. However, since the claimed invention defines a precise manner of implementing that abstract idea, the claimed invention is, therefore, inherently not an abstract idea. Moreover, since there are alternative ways to implement the abstract idea, the claimed invention is clearly not preempting the abstract idea.

In the rejection currently of record, the Examiner alleges that the precise method defined by the claimed invention constitutes an abstract idea because it preempts all applications (e.g., all types of information content of the datasets for which it can be applied) of the method. In response, Applicants bring to the Examiner's attention that such preemption is the purpose of the patent system. It is the precise process itself that is being protected, not the specific application of the process, and because the claimed invention clearly defines a sequence of precise process steps that implement a broader level of abstraction, it inherently no longer constitutes an abstract idea. As mentioned above, an alleged infringer need merely demonstrate that an accused process fails to satisfy at least one element of the claimed process.

Indeed, a key purpose of the patent system is to provide motivation for others to further develop the process of the claimed invention and/or develop an alternative and better process to the claimed invention. By arbitrarily declaring all computer-implemented processes as "abstract ideas", the USPTO would clearly be impeding progress in that technology by removing the motivation for additional development. It is noted that the prior art evaluation fails to provide evidence that the problem being addressed by the present invention was even recognized in the art prior to the present invention.

Stated slightly differently, the issue of the present evaluation can be summarized as noting that the Examiner clearly considers that an "abstract idea" is described by at least the independent claims, whereas Applicants have explained above why this level of evaluation should not be characterized as an "abstract idea", since there is clearly a higher level of abstraction possible over the independent claims that more reasonably describes the abstraction,

and because the independent claims do not preempt implementing the higher-level abstraction since there are clearly alternative ways for implementing the higher-level abstraction.

Moreover, even if the claimed invention had been described and claimed in terms of a single application, such as a dataset oriented to fraud detection, as this Examiner seemingly would require that future software applications be described, the Examiner would still be able to declare this level of abstraction as also being merely an abstract idea, simply because there is no legal definition of "abstract idea." That is, the Examiner would be able to declare that an application program directed to fraud detection constitutes an abstract idea because it could be used all types of fraud, and is not limited to a single type of fraud. Without a legal definition of "abstract idea", there would be no reasonable limit to Examiners' arbitrary definitions, since any level of abstraction could be the basis of an "abstract idea", a fact that has been demonstrated in the present rejection.

In summary, Applicants submit that, in response to the Examiner's current evaluation that relies upon a new and unarticulated standard that the claimed invention constitutes an abstract idea because it would preempt all applications that use this process, Applicants have explained that the claimed invention is actually a specific implementation of a higher-level of abstraction, thereby precluding that the claimed invention preempts all implementations of the abstract idea or preempts all applications of the abstract idea. As such and to the extent that a new statutory standard is being articulated by the rejection of record, Applicants submit that it has been successfully rebutted by Applicants by their further analysis of clarifying the level of abstraction that would more reasonably constitute the "abstract idea" underlying the claimed invention.

In view of the above, Applicants respectfully request that the Examiner reconsider and withdraw all rejections based on 35 USC § 101.

III. THE PRIOR ART REJECTIONS

The Examiner maintains the rejection of record based on Chan as anticipating the claimed invention as described in claims 1-9 and 12-33, and, when modified by Stolfo, renders obvious claims 10 and 11.

Applicants continue to respectfully disagree for the reasons previously articulated on the record. The following responds to the Examiner's most recent rejection.

Primary reference Chan fails to teach or suggest developing an estimated learning model for the entire dataset. Rather, as clearly described in the summary on the bottom section of page 68, Chan is clearly directed to a method of data mining a large data set by dividing the data into subsets, data mining each subset in parallel, and then combining the results as a "metaclassifier."

This concept is entirely different from the claimed invention. Even if the "data mining" or Chan were to be considered equivalent to developing a learning model (which it is not), the processing in Chan is merely that of providing a parallel processing of the entire data by dividing the data into subsets and processing these subsets in parallel as a data mining processing. The results of the parallel processing for all the subsets is then combined to provide a data mining processing for the entire data set.

In contrast to the claimed invention, in Chan there is no suggestion to use these subsets as incremental estimates of the learning model of the entire data set. Rather, in Chan, the whole goal is to arrive at a metaclassifier that represents the data mining result of all of the data mining processing for all of the subsets. Secondary reference Stolfo is not relied upon to overcome this fundamental deficiency of Chan and does not provide a remedy for this fundamental deficiency.

Thus, turning to the clear language of the claims, in Chan there is no teaching or suggestion of: "A method of processing an inductive learning model for a dataset of examples, said method comprising: dividing said dataset into a plurality of subsets of data; and developing an estimated learning model for said dataset by developing a learning model for a first subset of said plurality of subsets", as required by independent claim 1. The remaining independent claims have similar language.

Therefore, Applicants submit that all claims are clearly patentable over Chan, for this reason alone, that Chan is directed to an entirely different problem and method.

Additionally, in preparation for Appeal, Applicants submit the following rebuttals for the rejections of specific dependent claims.

Relative to the rejection for claim 2, the "overhead threshold" described at lines 6-20 of column 2 on page 70 of Chan is not reasonably related to termination of the parallel modeling process being described. That is, the overhead threshold described in these lines relate to the cost of investigating a transaction for fraud. There is no suggestion in Chan of relating this overhead cost as associated with the cost of developing a model of the dataset, let alone a

suggestion to terminate a parallel processing of developing this model at some stage of development.

Relative to the rejection for claims 3 and 4, there is no concept in Chan that reasonably satisfies the plain meaning of the claim language and no need for such concept. Chan is directed to a parallel processing of the dataset, not a progressive model of the dataset. There is no need to develop an accuracy estimation in the parallel processing of Chan, since its intent of generating classifiers in parallel is to more quickly finish the metaclassifier (e.g., the model for the entire dataset). Terminating this process before its completion would clearly defeat the purpose of the processing.

Relative to the rejection for claim 5, the natural billing cycle of credit card transactions of two months is not reasonably related to the plain meaning of the language of the claim that clearly describes time for developing the model of the dataset. Chan has no concept that corresponds to this description.

Relative to the rejection for claims 6 and 7, the detection of fraud in the processing of Chan does not reasonably satisfy the plain meaning of the language of this claim, since the benefit is clearly related to the accuracy of the processing of the model. Chan has no concept that reasonably corresponds.

Other dependent claims have similar language and are similarly not anticipated by Chan.

Relative to the rejection for claims 10 and 11, wherein the Examiner urges to combine Stolfo with Chan, Applicants respectfully submit that, even if combined, the combination would still not overcome the fundamental deficiency identified above that Chan is directed to an entirely different processing of data mining as a parallel data mining processing and has nothing to do with an incremental estimation of the model that would be ultimately developed if the entire data set were to be processed.

In view of the above, Applicants respectfully submit that the present invention contains aspects that are not present in the prior art of record, and the Examiner is, therefore, respectfully requested to reconsider and withdraw this rejection.

IV. FORMAL MATTERS AND CONCLUSION

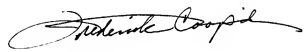
In view of the foregoing, Applicant submits that claims 1-33, all the claims presently

pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 50-0510.

Respectfully Submitted,



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